

Application Serial No.: 10/675,152
Supplemental Amendment and Response to March 22, 2005 Non-Final Office Action

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A method comprising:

receiving a control signal from a charge pump;

coupling a switch capacitor circuit to ~~a~~the control signal using a first switch;

determining that an output capacitance of the switch capacitor circuit generated based on the control signal is oscillating;

uncoupling the switch capacitor circuit from the control signal using the first switch to set a first output capacitance of the switch capacitor circuit; and

coupling a main loop circuit to the control signal using a second switch to generate an output signal based on the control signal,

wherein a frequency of an oscillating signal output by an oscillating circuit is based at least on the first output capacitance and on the output signal generated by the main loop circuit,
and

wherein the control signal is based on a frequency of an oscillating signal output from the oscillating circuit and a reference frequency.

2. (cancelled)

3. (original) A method according to Claim 2, further comprising:

receiving a reference signal representing the reference frequency;

receiving a first signal having a first frequency, the first frequency based on the frequency of the oscillating signal;

determining a difference between the reference frequency and the first frequency; and

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transmitting a signal to the charge pump based on the difference.

4. (cancelled)

5. (original) A method according to Claim 1, further comprising:

setting the main loop circuit to substantially a center of its tuning range before coupling the switch capacitor circuit to the control signal.

6. (original) A method according to Claim 1, further comprising:

determining if the main loop circuit has reached a threshold point in its tuning range; and
changing the first output capacitance to a second output capacitance if it is determined that the main loop circuit has reached the threshold point in its tuning range.

7. (original) A method according to Claim 6, further comprising:

again determining if the main loop circuit has reached the threshold point in its tuning range; and

changing the second output capacitance to a third output capacitance if it is again determined that the main loop circuit has reached the threshold point in its tuning range.

8. (original) A method according to Claim 6, wherein changing the first output capacitance comprises:

transmitting a signal from the main loop circuit to the switch capacitor circuit.

9. (currently amended) An apparatus comprising:

a charge pump to generate a control signal;

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a switch capacitor circuit to generate a first output capacitance based on ~~a~~the control signal;

a main loop circuit to generate an output signal based on the control signal;

an oscillating circuit to generate an oscillating signal, a frequency of the oscillating signal based at least on the first output capacitance and the output signal;

a first switch to couple the switch capacitor circuit to the control signal and to decouple the switch capacitor circuit from the control signal; and

a second switch to couple the main loop circuit to the control signal and to decouple the main loop circuit from the control signal,

wherein the control signal is based on the frequency of the oscillating signal and on a reference frequency.

10. (cancelled)

11. (currently amended) An apparatus according to Claim 10, further comprising:

a detector to receive a reference signal representing the reference frequency, to receive a first signal having a first frequency, the first frequency based on the frequency of the oscillating signal, to determine a difference between the reference frequency and the first frequency, and to transmit a signal to the charge pump based on the difference.

12. (cancelled)

13. (previously amended) An apparatus according to Claim 11,

wherein the first switch is to uncouple the switch capacitor circuit from the control signal if it is determined that an output capacitance of the switch capacitor circuit is oscillating; and

wherein the second switch is to couple the main loop circuit to the control signal if it is determined that the output capacitance of the switch capacitor circuit is oscillating.

14. (cancelled)

15. (previously amended) An apparatus according to Claim 9,
wherein the first switch is to uncouple the switch capacitor circuit from the control signal if it is determined that an output capacitance of the switch capacitor circuit is oscillating; and
wherein the second switch is to couple the main loop circuit to the control signal if it is determined that the output capacitance of the switch capacitor circuit is oscillating.

16. (original) An apparatus according to Claim 9,
the capacitor switch circuit to change the first output capacitance to a second output capacitance if it is determined that the main loop circuit has reached a threshold point in its tuning range.

17. (original) An apparatus according to Claim 16, further comprising:
the capacitor switch circuit to change the second output capacitance to a third output capacitance if it is determined that the main loop circuit has reached the threshold point in its tuning range.

18. (currently amended) A system comprising:
a transceiver to transmit and receive data comprising:
a charge pump to generate a control signal;
a switch capacitor circuit to generate a first output capacitance based on ~~a~~ the control signal;
a main loop circuit to generate an output signal based on the control signal;

an oscillating circuit to generate an oscillating signal, a frequency of the oscillating signal based at least on the first output capacitance and the output signal, the oscillating signal to be used to encode and decode the data;

a first switch to couple the switch capacitor circuit to the control signal and to decouple the switch capacitor circuit from the control signal; and

a second switch to couple the main loop circuit to the control signal and to decouple the main loop circuit from the control signal,

wherein the control signal is based on the frequency of the oscillating signal and on a reference frequency;

a processor to process the data; and

a double data rate memory in communication with the processor.

19. (currently amended) A system according to Claim 18, further comprising:

~~a charge pump to generate the control signal;~~

a detector to receive a reference signal representing a reference frequency, to receive a first signal having a first frequency, the first frequency based on the frequency of the oscillating signal, to determine a difference between the reference frequency and the first frequency, and to transmit a signal to the charge pump based on the difference.

20. (cancelled)

21. (previously amended) A system according to Claim 18,

wherein the first switch is to uncouple the switch capacitor circuit from the control signal if it is determined that an output capacitance of the switch capacitor circuit is oscillating; and

wherein the second switch is to couple the main loop circuit to the control signal if it is determined that the output capacitance of the switch capacitor circuit is oscillating.

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22. (original) A system according to Claim 18, further comprising:

a framer coupled to the transceiver and to the processor, the framer to decapsulate data received by the transceiver and to encapsulate data to be transmitted by the transceiver.